

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>P792PC00</b>	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. <b>PCT/DK2004/000454</b>	International filing date (day/month/year) <b>25/06/2004</b>	(Earliest) Priority Date (day/month/year) <b>26/06/2003</b>
Applicant  <b>CARLSBERG A/S</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (See Box II).

3. ☐ Unity of invention is lacking (see Box III).

## 4. With regard to the title,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

LIBRARIES CONTAINING HETEROCYCLIC ORGANIC MOLECULES PREPARED THROUGH INTRA-MOLECULAR FORMATION OF N-ACYLIMINIUM IONS

## 5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

## 6. With regards to the drawings,

- a. the figure of the drawings to be published with the abstract is Figure No. 1

☐ as suggested by the applicant.

☒ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

- b. ☐ none of the figures is to be published with the abstract.

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/DK2004/000454

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 C07K1/04 C07B61/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K C07B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, BIOSIS, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	T GROTH & M MELDAL: "N-terminal peptide aldehydes as electrophiles in combinatorial solid phase synthesis of novel peptide isosteres" JOURNAL OF COMBINATORIAL CHEMISTRY., vol. 3, 2001, pages 45-63, XP002274660 AMERICAN CHEMICAL SOCIETY, WASHINGTON., US ISSN: 1520-4766 cited in the application the whole document ----- -/--	1-143

☒ Further documents are listed in the continuation of box C.

☐ Patent family members are listed in annex.

## \* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*G\* document member of the same patent family

Date of the actual completion of the international search

16 December 2004

Date of mailing of the international search report

04/01/2005

Name and mailing address of the ISA

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## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/DK2004/000454

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>T GROTH &amp; M MELDAL: "Synthesis of aldehyde building blocks protected as acid labile N-Boc N, O-acetals: toward combinatorial solid phase synthesis of novel peptide isosteres"</p> <p>JOURNAL OF COMBINATORIAL CHEMISTRY., vol. 3, 2001, pages 34-44, XP002274661</p> <p>AMERICAN CHEMICAL SOCIETY, WASHINGTON., US</p> <p>ISSN: 1520-4766</p> <p>cited in the application</p> <p>the whole document</p>	1-143
X	<p>J RADEMANN ET AL.: "Solid-phase synthesis of peptide isosters by nucleophilic reactions with N-terminal peptide aldehydes on a polar support tailored for solid-phase organic chemistry"</p> <p>CHEMISTRY - A EUROPEAN JOURNAL., vol. 5, no. 4, 1999, pages 1218-1225, XP002274662</p> <p>VCH PUBLISHERS., US</p> <p>ISSN: 0947-6539</p> <p>the whole document</p>	1-143
X	<p>J H GRIMES JR ET AL.: "Solid-phase synthesis of a type II' beta-turn peptido-mimetic library"</p> <p>TETRAHEDRON LETTERS., vol. 44, no. 19, 5 May 2003 (2003-05-05), pages 3835-3838, XP004420849</p> <p>ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM., NL</p> <p>ISSN: 0040-4039</p> <p>the whole document</p>	1-143
A	<p>H WANG &amp; A GANESAN: "The N-acyliminium Pictet-Spengler condensation as a multicomponent combinatorial reaction on solid phase and its application to the synthesis of demethoxyfunitremorgin C analogues"</p> <p>ORGANIC LETTERS., vol. 1, no. 10, 1999, pages 1647-1649, XP001021212</p> <p>ACS, WASHINGTON, DC., US</p> <p>ISSN: 1523-7060</p> <p>the whole document</p>	1-143

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## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/DK2004/000454

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	P P FANTAUZZI & K M YAGER: "Synthesis of diverse tetrahydro-beta-carboline-3-carboxamides and -2,3-bis-lactame on a versatile 4-hydroxythiophenol-linked solid support" TETRAHEDRON LETTERS., vol. 39, 1998, pages 1291-1294, XP004107917 ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM., NL ISSN: 0040-4039 the whole document	1-143
A	R MOHAN ET AL.: "Pictet-spengler reaction on solid support: synthesis of 1,2,3,4-tetrahydro-beta-carboline libraries" TETRAHEDRON LETTERS., vol. 37, no. 23, 1996, pages 3963-3966, XP004029271 ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM., NL ISSN: 0040-4039 the whole document	1-143
A	J P MAYER ET AL.: "Application of the Pictet-Spengler reaction in combinatorial chemistry" TETRAHEDRON LETTERS., vol. 37, no. 32, 1996, pages 5633-5636, XP004030498 ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM., NL ISSN: 0040-4039 the whole document	1-143